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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,949	08/07/2003	Wen-Qing Xu	27023/04037	1226
24024 75	10/12/2004		EXAMINER	
CALFEE HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114			MARCHESCHI, MICHAEL A	
			ART UNIT	PAPER NUMBER
			1755	
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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
065 4-45 0	10/635,949	XU ET AL.				
Office Action Summary	Examiner	Art Unit				
	Michael A Marcheschi	1755				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).						
Status						
1) Responsive to communication(s) filed on						
2a) ☐ This action is FINAL . 2b) ☑ This	This action is FINAL . 2b)⊠ This action is non-final.					
3) Since this application is in condition for allowan	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4) ⊠ Claim(s) 1-21 is/are pending in the application. 4a) Of the above claim(s) 14-21 is/are withdrawn 5) □ Claim(s) is/are allowed. 6) ⊠ Claim(s) 1-13 is/are rejected. 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or						
Application Papers						
 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119		•				
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 						
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	4) Interview Summary (Paper No(s)/Mail Dat	e. <u>9/30/04</u> .				
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/26/04. 5) Notice of Informal Patent Application (PTO-152) 6) Other:						

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Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13 to a polishing slurry, classified in class 51, subclass 307.
- II. Claims 14-21 to a method of polishing classified in class 438, subclass 692.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the process for using the product as claimed can be practiced with another materially different product, such as one that does not require the claimed additive.

Because these inventions are distinct for the reasons given above and (1) have acquired a separate status in the art as shown by their different classification, (2) have acquired a separate status in the art because of their recognized divergent subject matter, and (3) the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with John Miller on 9/30/04 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. Process claims that depend from or otherwise include all the limitations of the patentable product will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of In re Ochiai, In re Brouwer and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. Failure to do so may result in a loss of the right to rejoinder. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Applicants must request this.

The disclosure is objected to because of the following informalities:

In table 1, applicants set forth "ADP¹ and ADP² but fail to set forth what the superscript refers to (no superscript defined at the bottom of this table).

Appropriate correction is required.

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Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite as to the phrase "nucleic acid <u>related</u> compound" because the examiner is unclear as to what this encompasses, thus rendering the scope of the claim unclear. What is considered a related compound?

Claim 2 is indefinite as to the phrase "at about 0.01 wt. %" because this phrase is incomplete.

The other claims are indefinite because they depend on an indefinite claim.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either (1) Uchikura et al. (828) or (2) Motonari et al. (912).

Uchikura et al. (828) teach in sections [0068], [0089], [0112]-[0115] and [0121]-[0122], a polishing composition which comprises an abrasive, water, a heterocyclic compound (adenine or guanine) and a surfactant (anionic, cationic or nonionic).

Motonari et al. (912) teach in sections [0036]- [0045] and [0062], a polishing composition which comprises an abrasive, water, a heterocyclic compound (adenine or guanine) and a surfactant (anionic, cationic or nonionic).

The claims are anticipated by the references because said references teach all of the features of the instant claims. In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing the contrary.

Claims 1-3 and 9 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Konno et al. (011).

Konno et al. teach in sections [0067]-[0068], [0082] and [0106], a polishing composition which comprises an abrasive, water, a heterocyclic compound (adenine or guanine) and a surfactant (anionic, cationic or nonionic).

The claims are anticipated by the reference because said reference teaches all of the features of the instant claims. In the alternative, no patentable distinction is seen to exist

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between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over either (1) Uchikura et al. (828), (2) Motonari et al. (912) or (3) Konno et al. (011) all in view of Houthoff et al. and Dervan et al.

Houthoff et al. teach in column 2, lines 60-64 that adenine and guanine are nucleotides.

Dervan et al. teach in claim 5 that adenine and guanine are nucleoside bases.

All the primary references teach the use of heterocyclic compound (i.e. adenine or guanine) and it is the examiners position these materials encompass the broad recitation of nucleotides and nucleosides, as is clearly shown by the secondary references (nucleotides and nucleoside bases encompass the claimed materials, absent evidence to the contrary).

Claims 10-12 are rejected under 35 U.S.C. 103(a) as obvious over either (1) Uchikura et al. (828), (2) Motonari et al. (912) or (3) Konno et al. (011) <u>all</u> in view of Carter et al. (309), Tsuchiya et al. (968) and Van Dusen et al. (915).

Carter et al. teach in the abstract and section [0037] that the uses of a surfactant mixture (mixture of anionic, cationic and nonionic surfactants) are known to be used in polishing compositions.

Tsuchiya et al. teach in column 5, lines 16-35 that the claimed materials are known anionic and cationic surfactants.

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Van Dusen et al. teach in column 4, lines 40-42 that polyvinyl alcohol is a known nonionic surfactant.

All the primary references teach the use surfactants and it is prima facie obvious to combine two or more materials (surfactants) disclosed by the prior art to form a third material (combination of surfactants) that is to be used for the same purpose. In re Kerkhoven 205 USPQ 1069. In addition, the combination is also obvious because the use of a combination of surfactants is notoriously known to be used in polishing compositions, as is shown by Carter et al. With this being obvious, the primary references teach anionic, cationic and nonionic surfactants, in general, and this makes obvious the claimed specific ones because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)". In addition, Tsuchiya et al. and Van Dusen et al. show that the claimed specific surfactants fall within the category of the surfactants defined by the primary references.

Claims 1-3 and 9-10 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Carter et al. (309).

Carter et al. teach in sections [0017], [0025] and [0037], a polishing composition which comprises an abrasive, water, cytosine and a surfactant (mixture of anionic, cationic and nonionic surfactants).

The claims are anticipated by the reference because said reference teaches all of the features of the instant claims. In the alternative, no patentable distinction is seen to exist

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between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over Carter et al. (309) in view of Houthoff et al. and Dervan et al.

The primary references teach the use of cytosine and it is the examiners position this material encompasses the broad recitation of nucleotides and nucleosides, as is clearly shown by the secondary references (nucleotides and nucleoside bases encompass the claimed materials, absent evidence to the contrary).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as obvious over Carter et al. (309) in view of Tsuchiya et al. (968) and Van Dusen et al. (915).

The primary references teach the use of a combination of surfactants and although the claimed specific ones are not literally disclosed, the broad teaching of anionic, cationic and nonionic surfactants, in general, makes obvious the claimed specific ones because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)". In addition, Tsuchiya et al. and Van Dusen et al. show that the claimed specific surfactants fall within the category of the surfactants defined by the primary reference.

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Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hagihara et al. (007).

Hagihara et al. teach in sections [0042]-[0045] and [0049], a polishing composition which comprises an abrasive, water, phosphoric acid based organic compounds, etc. (adenosine phosphate, guanosine phosphate, cytidine phosphate and the like) and a surfactant (anionic, cationic or nonionic).

The claims are anticipated by the reference because said reference teaches all of the features of the instant claims. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claim 6 is rejected under 35 U.S.C. 103(a) as obvious over Hagihara et al. (007).

The primary reference teaches the use of phosphoric acid based organic compounds, etc. (adenosine phosphate, guanosine phosphate, cytidine phosphate and the like) and this encompasses and therefore makes obvious the claimed specific materials because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)". In addition, the position of the phosphate is not seen to provide any patentable distinction over this reference absent evidence to the contrary.

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Claims 10-12 are rejected under 35 U.S.C. 103(a) as obvious over Hagihara et al. (007) in view of Carter et al. (309), Tsuchiya et al. (968) and Van Dusen et al. (915).

The primary reference teaches the use of surfactants, in general, and the claimed combination is obvious because the use of a combination of surfactants is notoriously known to be used in polishing compositions, as is shown by Carter et al. With this being obvious, Carter et al. teach anionic, cationic and nonionic surfactants, in general, and this makes obvious the claimed specific ones because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)". In addition, Tsuchiya et al. and Van Dusen et al. show that the claimed specific surfactants fall within the category of the surfactants defined by Carter et al.

Claims 1-3 and 9 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either (1) De Rege Thesuaro et al. (142) or (2) Brusic et al. (622).

De Rege Thesuaro et al. teach in sections [0011] and [0014]-[0017], a polishing composition which comprises an abrasive, water and a heterocyclic compound (i.e. adenine, guanine, thymine, etc.). It is implied that that other well known additives for polishing compositions can be added.

Brusic et al. teach in column 2, line 65-column 4, line 30 and claim 7, a polishing composition which comprises an abrasive, water and a heterocyclic compound (i.e. adenine,

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guanine, thymine, etc.). It is implied that that other well known additives for polishing compositions can be added.

The claims are anticipated by the reference because said reference teaches all of the features of the instant claims. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over either (1) De Rege Thesuaro et al. (142) or (2) Brusic et al. (622) <u>all</u> in view of Houthoff et al. and Dervan et al.

All the primary references teach the use of heterocyclics compound (i.e. adenine or guanine) and it is the examiners position these materials encompass the broad recitation of nucleotides and nucleosides, as is clearly shown by the secondary references (nucleotides and nucleoside bases encompass the claimed materials, absent evidence to the contrary).

Claims 10-12 are rejected under 35 U.S.C. 103(a) as obvious over either (1) De Rege Thesuaro et al. (142) or (2) Brusic et al. (622) all in view of Carter et al. (309), Tsuchiya et al. (968) and Van Dusen et al. (915).

The primary references teach that other conventional additives can be added and it is the examiners position that one skilled in the art would have found it obvious to add a surfactant (surfactant mixture) to the composition of the primary references because this component is well known to added to polishing composition, as is shown by Carter et al. With this being obvious, Carter et al. teach anionic, cationic and nonionic surfactants, in general, and this makes obvious

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the claimed specific ones because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)". In addition, Tsuchiya et al. and Van Dusen et al. show that the claimed specific surfactants fall within the category of the surfactants defined by Carter et al.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over DeSimone et al. (948).

DeSimone et al. (948) teach in sections [0054]-[0059], a polishing composition which comprises an abrasive, water, DNA bases and a surfactant (anionic and cationic specifically mentioned).

The claims are anticipated by the references because said references teach all of the features of the instant claims (the limitation "DNA bases" as defined by the reference reads on the claimed material). In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing the contrary.

Claims 4-9 and 13 are rejected under 35 U.S.C. 103(a) as obvious over DeSimone et al. (948).

The primary reference teaches the use of "DNA bases" and it is the examiners position that the broad interpretation of this encompasses "DNA", as well as the specific materials defined by the instant claims because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16

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USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)".

Claims 10-12 are rejected under 35 U.S.C. 103(a) as obvious over DeSimone et al. (948) in view of Carter et al. (309), Tsuchiya et al. (968) and Van Dusen et al. (915).

The primary reference teaches the use of surfactants, in general, and the claimed combination is obvious because the use of a combination of surfactants is notoriously known to be used in polishing compositions, as is shown by Carter et al. With this being obvious, Carter et al. teach anionic, cationic and nonionic surfactants, in general, and this makes obvious the claimed specific ones because "A generic disclosure renders a claimed species prima facie obvious. Ex parte George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co. v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)". In addition, Tsuchiya et al. and Van Dusen et al. show that the claimed specific surfactants fall within the category of the surfactants defined by Carter et al.

Although the above references might not use the claimed additive for the same purpose or call it a "selectivity enhancer", no distinction is seen to exist because the claimed additive is used in the composition, irrespective of what it is called or used for.

The examiner acknowledges the results defined in table 1, but these results are not sufficient to establish patentability. In addition and assuming arguendo, any result defined is <u>only</u> for the specific additive and not the broad claimed additive "nucleic acid related compound".

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In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. In re Opprecht 12 USPQ 2d 1235, 1236 (CAFC 1989); In re Bode USPQ 12; In re Lamberti 192 USPQ 278; In re Bozek 163 USPQ 545, 549 (CCPA 1969); In re Van Mater 144 USPQ 421; In re Jacoby 135 USPQ 317; In re LeGrice 133 USPQ 365; In re Preda 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See In re Van Marter, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. Ex parte

George 21 USPQ 2d 1057, 1060 (BPAI 1991); In re Woodruff 16 USPQ 2d 1934; Merk & Co.

v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); In re Susi 169 USPQ 423 (CCPA 1971)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if

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appropriate. However, the last article cited on the 1449 (Steigerwald et al.) has <u>not</u> been considered (lined through) because this article has <u>not</u> been included with the IDS.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (top free).

Michael A Marcheschi Primary Examiner Art Unit 1755

10/04 **MM**